

FIGURE 1

2/30

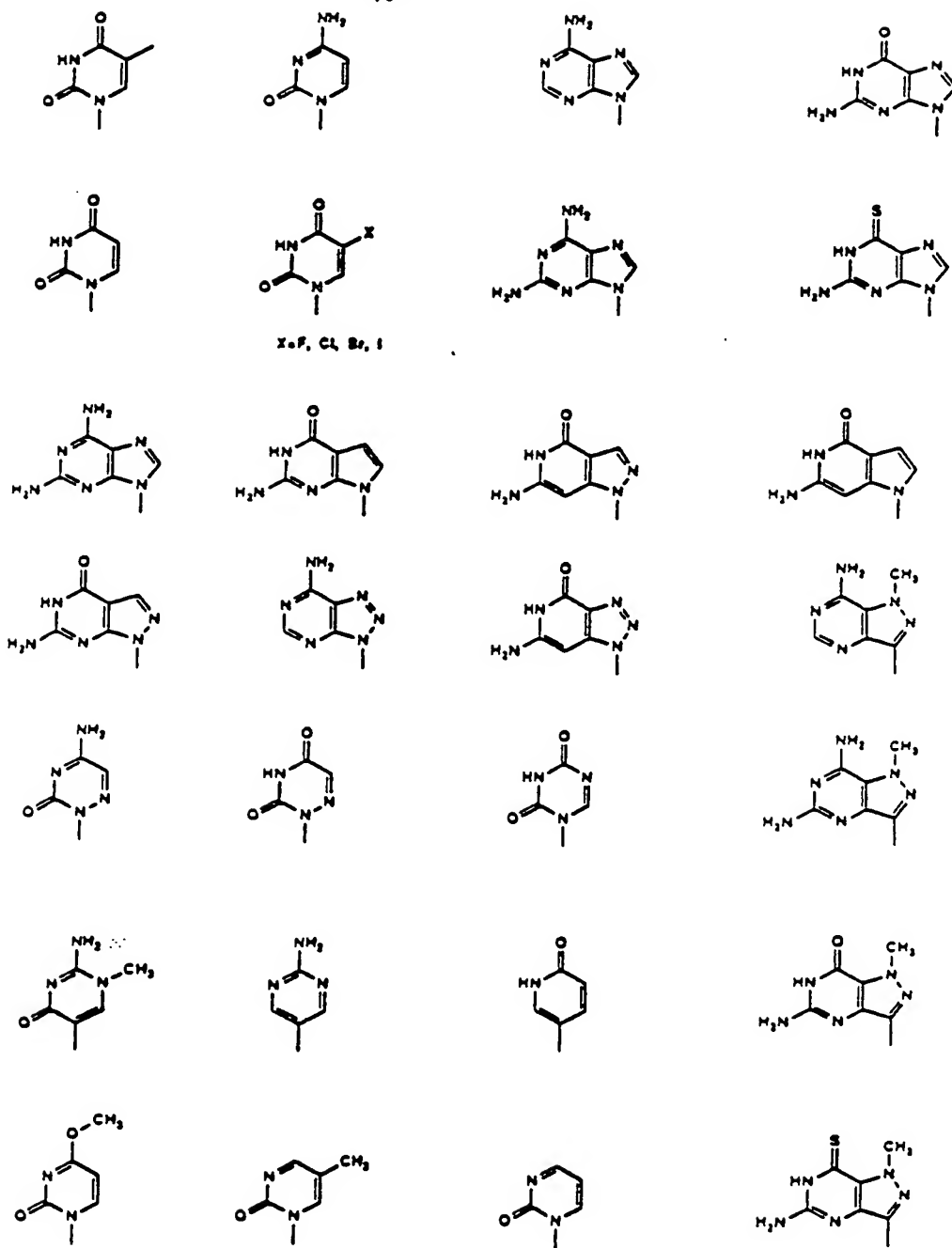


FIGURE 2

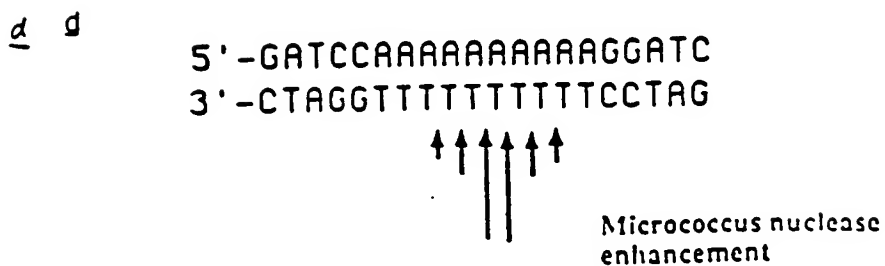
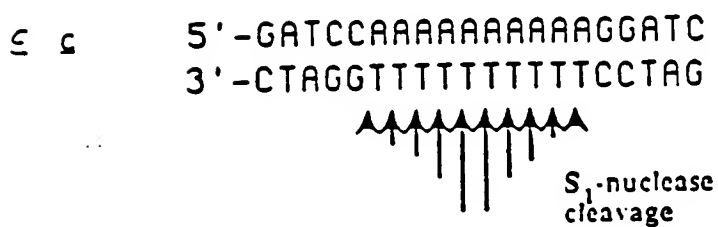
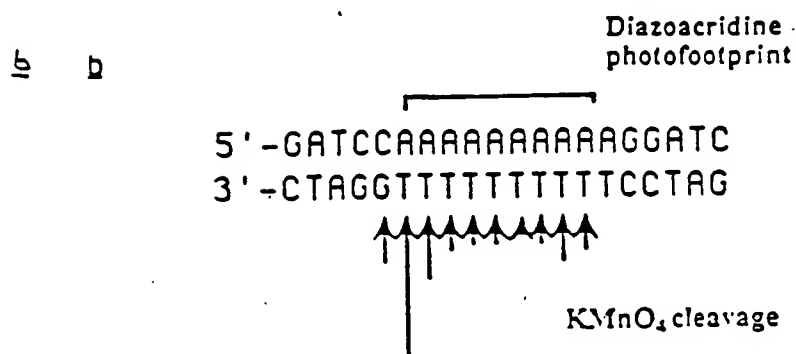
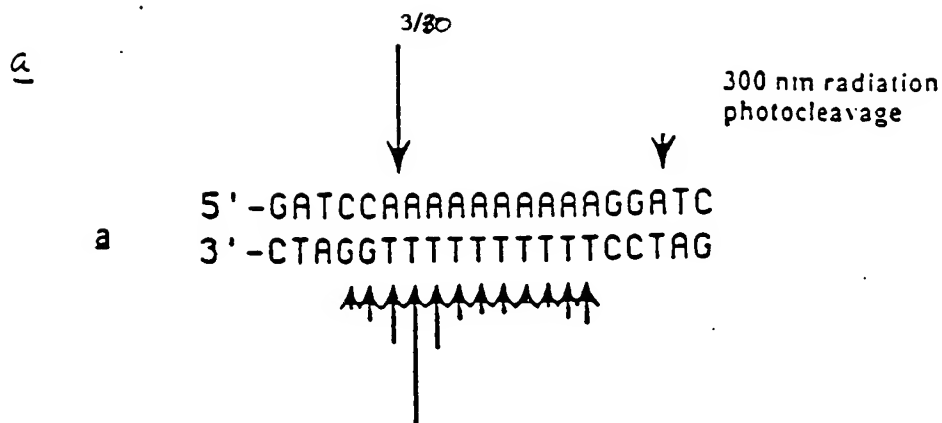


FIGURE 3

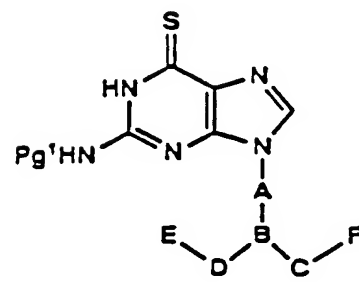
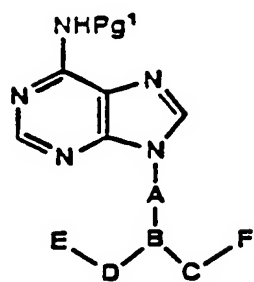
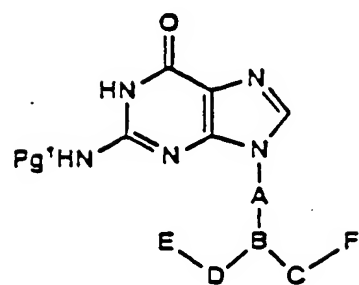
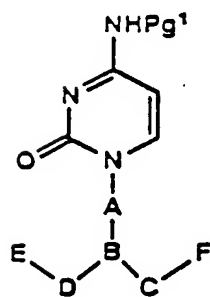
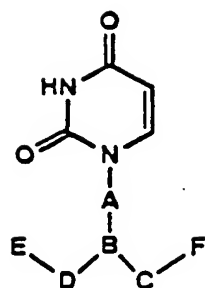
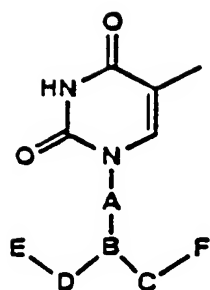
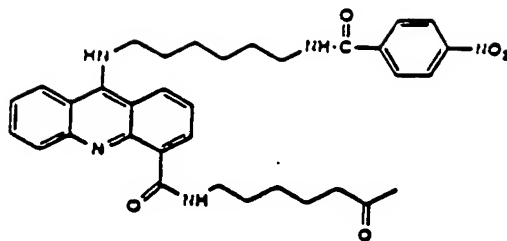


FIGURE 4

5/30



Acr¹

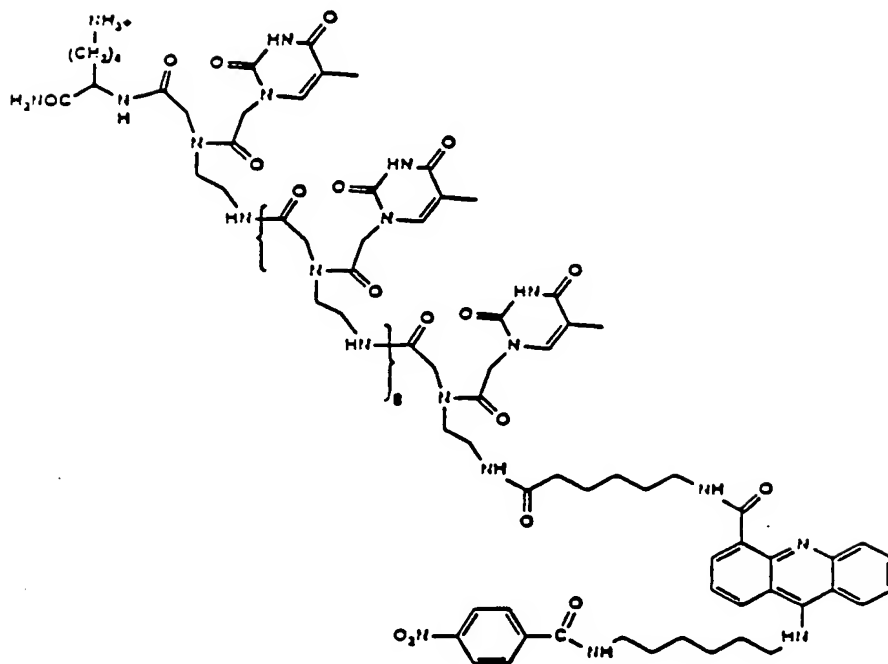
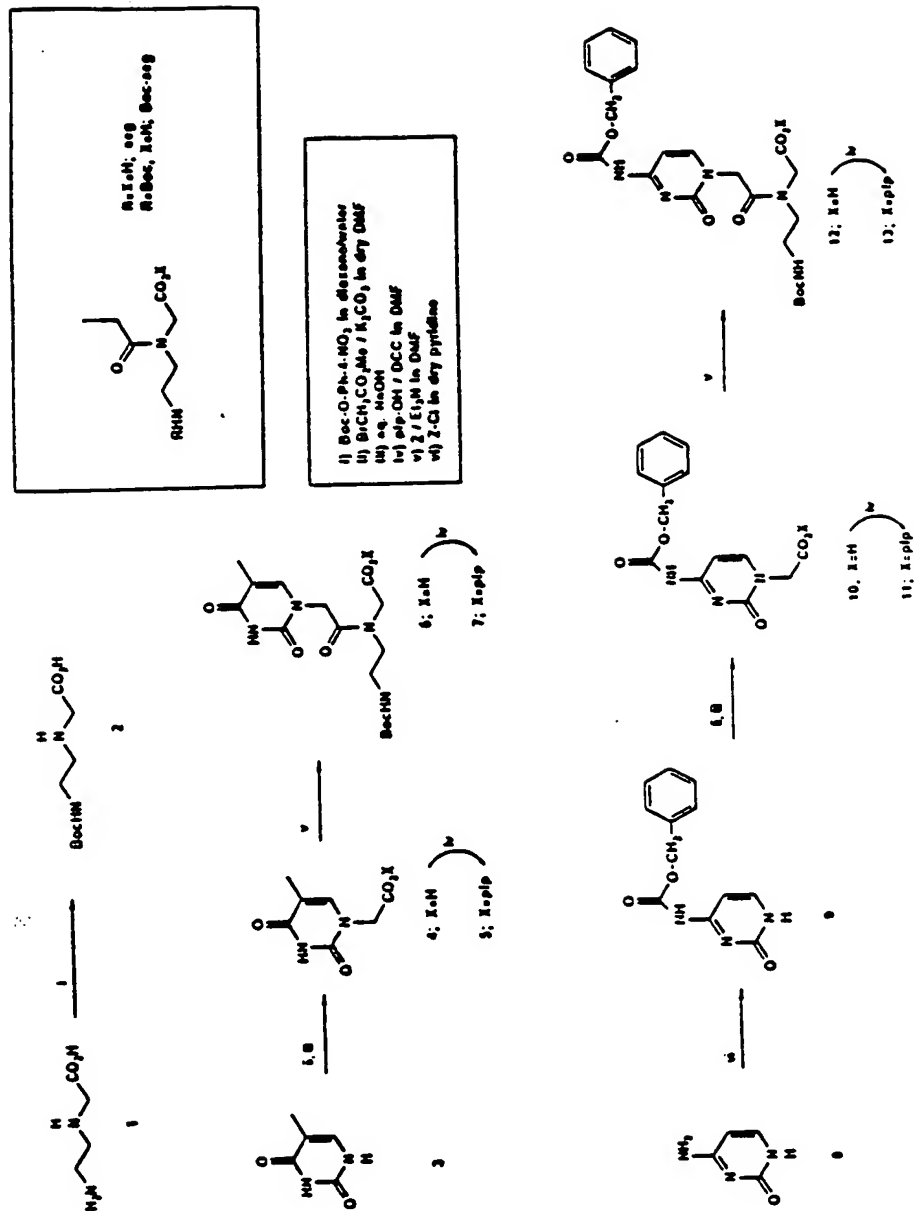


FIGURE 5



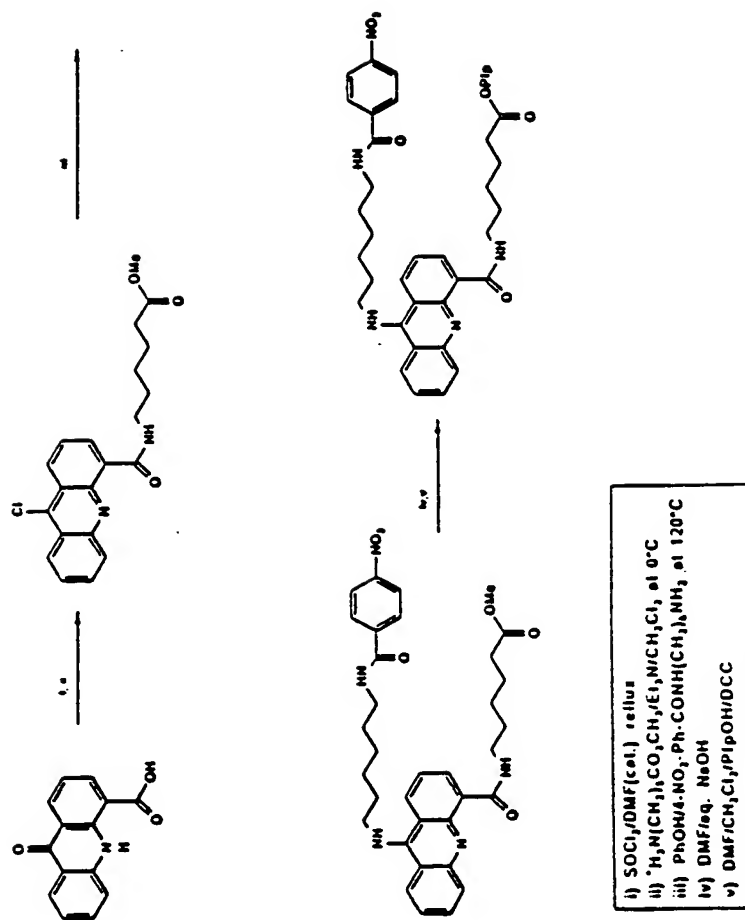


FIGURE 7

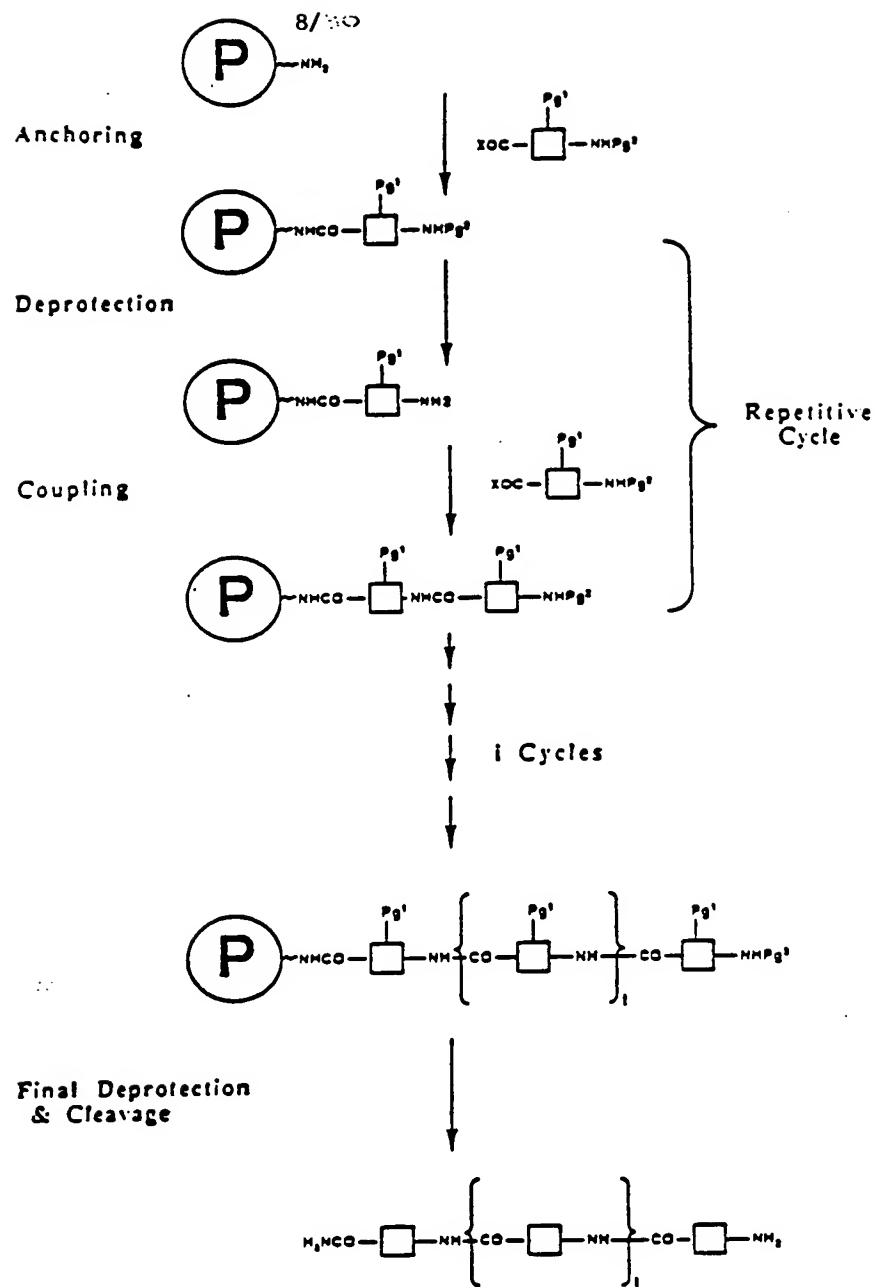


FIGURE 8

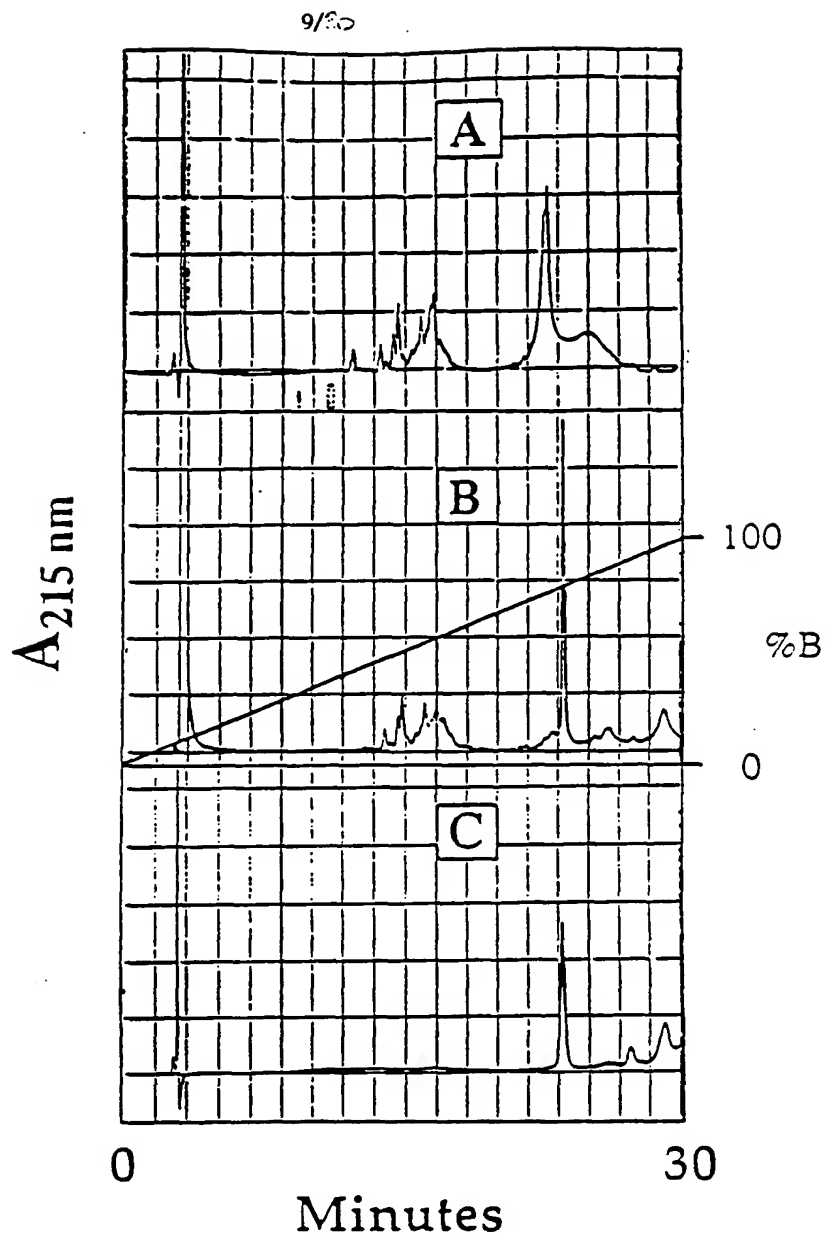


FIGURE 9

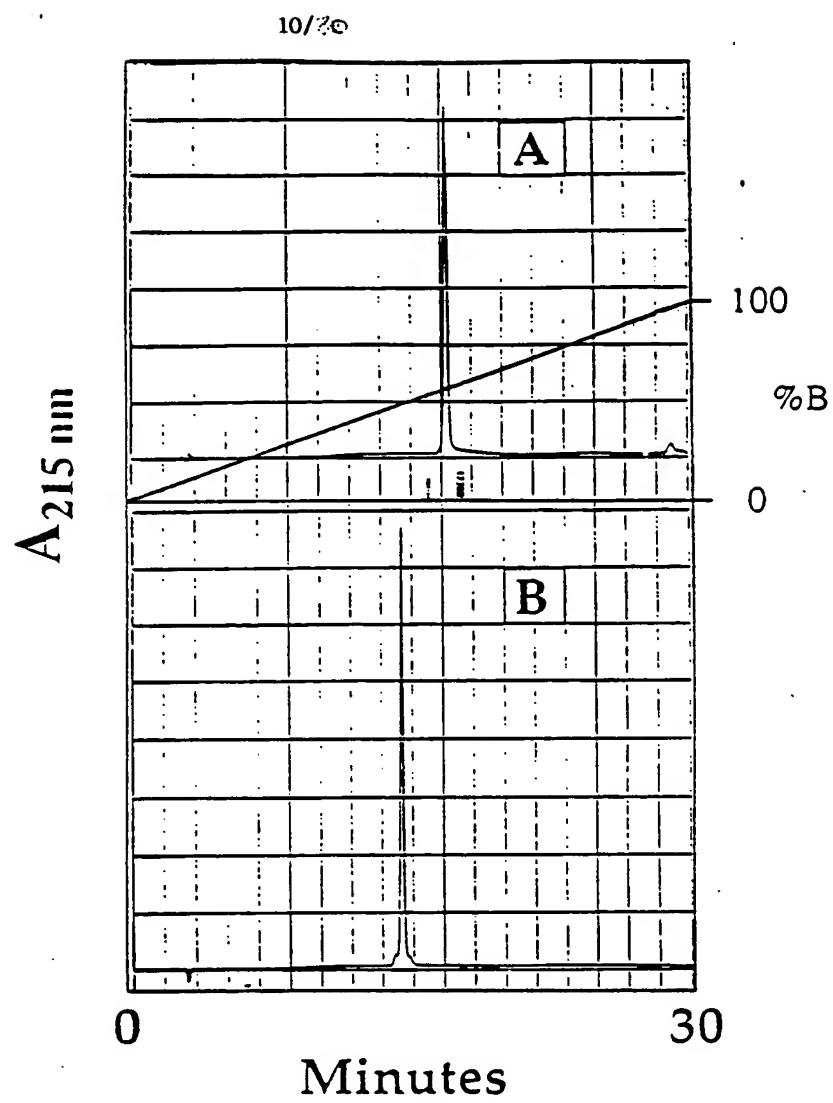


FIGURE 10

³² P-oligo	1	1	1	1	1	1	2	2	2
oligo 2	-	-	-	+	+	+	-	-	-
AcrT10Lys	0	+	++	0	+	++	0	+	++

complex

dsDNA

ssDNA

ss

FIGURE 11(a)

³² P-oligo	1	1	1	1	1	1	2	2	2
oligo 2	-	-	-	+	+	+	-	-	-
AcrT10Lys	0	+	++	0	+	++	0	+	++

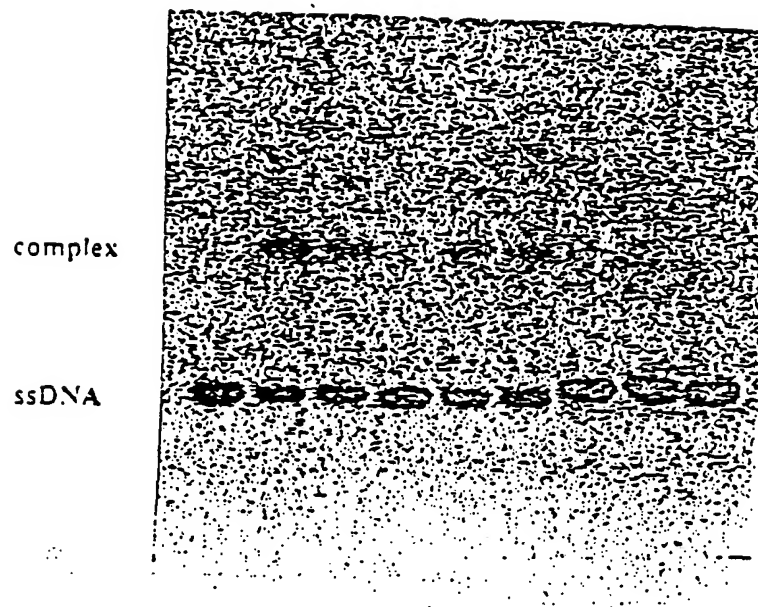


FIGURE 11 (b)

13/ 30
 1 2 3 4 5 6 7
 AcrT10Lys - + ++ • - +

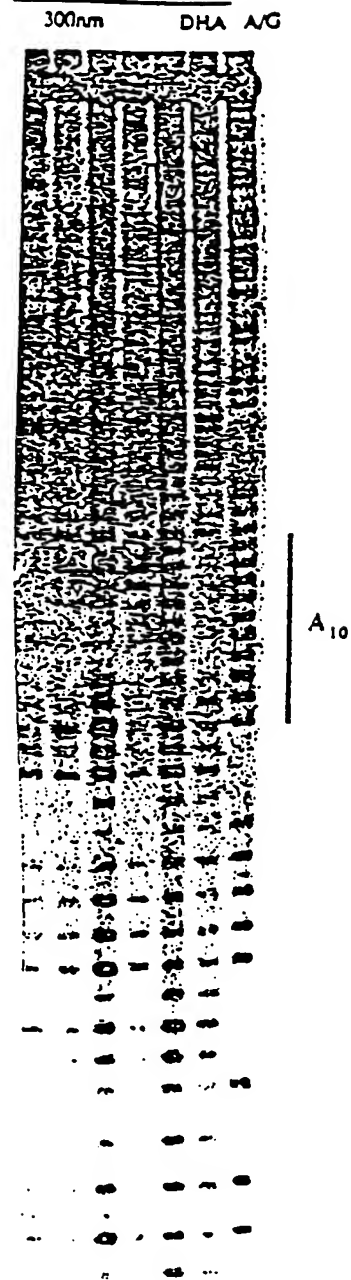
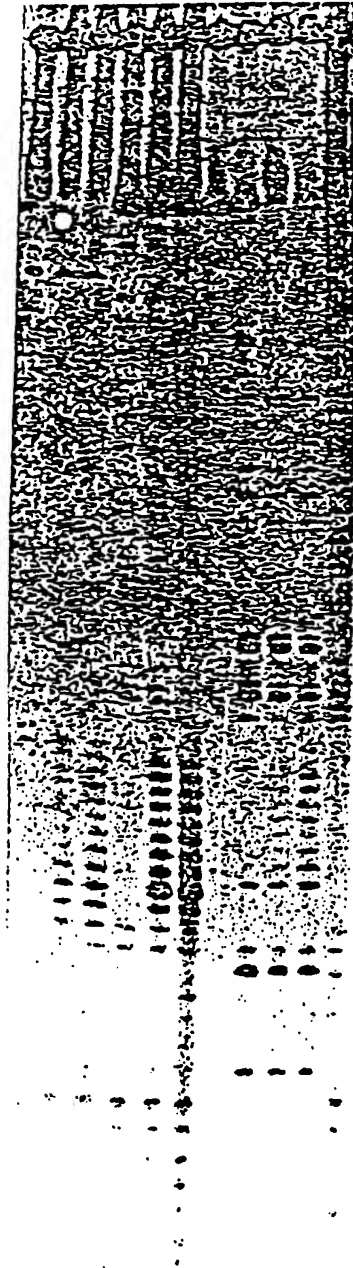


FIGURE 12(a)

14/-30

AcrT10Lys

1	2	3	4	5	6	7	8	9	10	11
-	+	++	-	+	++	-	-	+	+	
300um	KMnO ₄	c	slaph	A/G						



T₁₀

FIGURE 12 (B)

15/ 30
 S₁-nuclease 0.1 1 10 0.1 1 10
 AcrT10Lys . . . + + +



T₁₀

FIGURE 12(c)

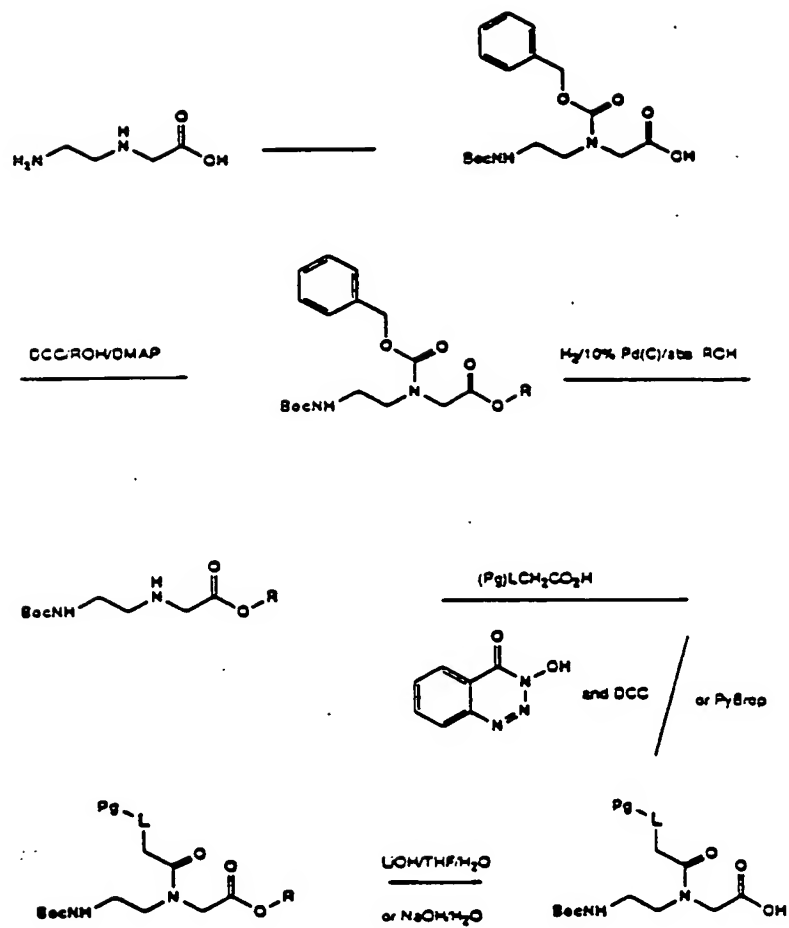


FIGURE 13

17/ 30

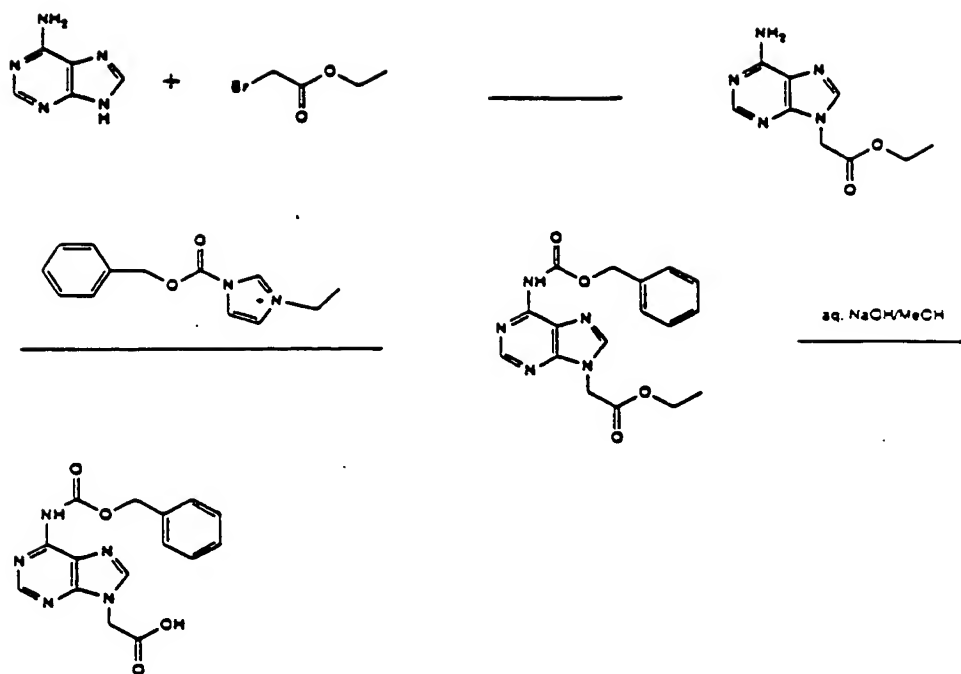


FIGURE 14

18/ 80

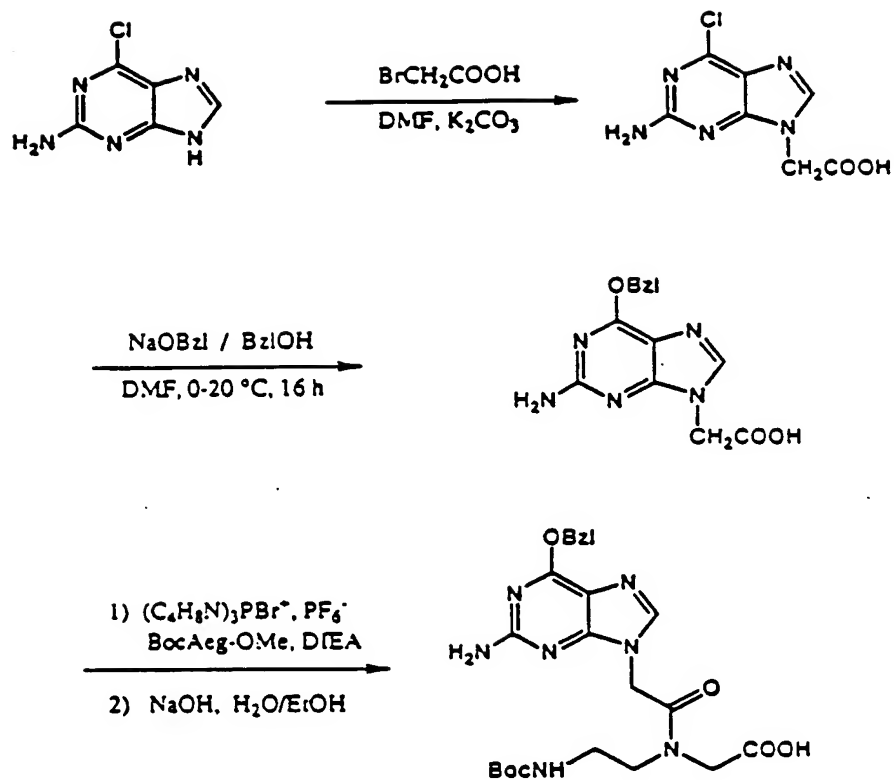


FIGURE 15

Alterations of A, B, C and D

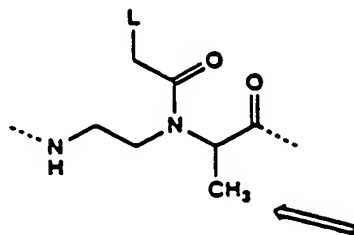
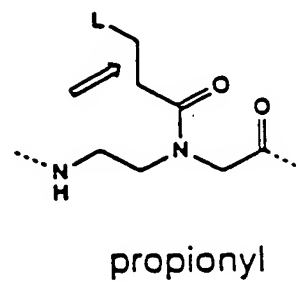
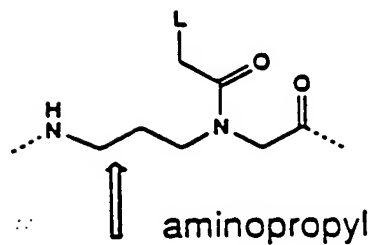
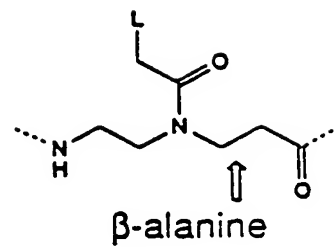
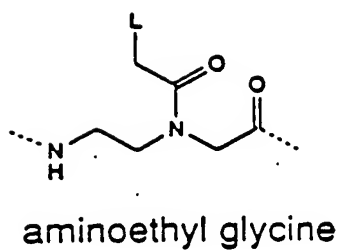
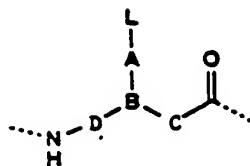
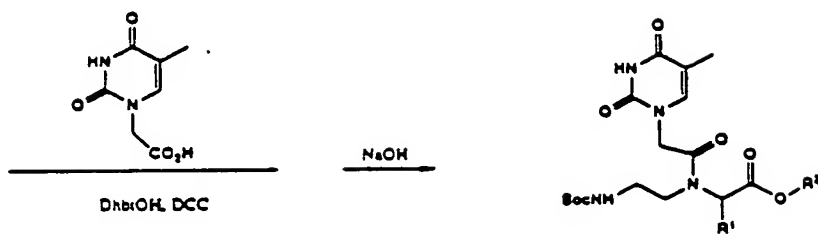
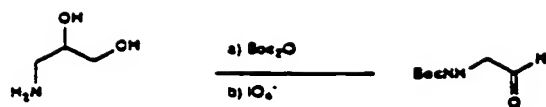


FIGURE 16



R^1 = amine acid sidechain

R^2 = methyl, ethyl etc.

FIGURE 17

21/ 30

Synthesis of the aminopropyl analogue of the thymine monomer

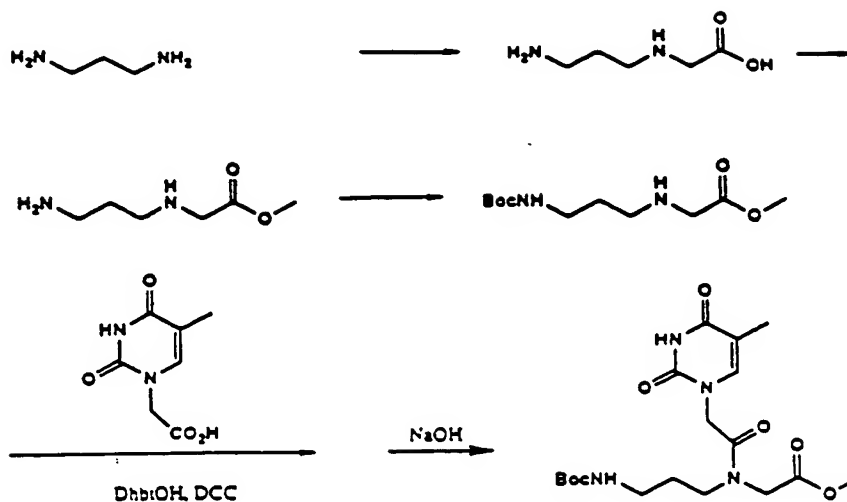


FIGURE 18 (a)

Synthesis of the propionyl analogue of the thymine monomer

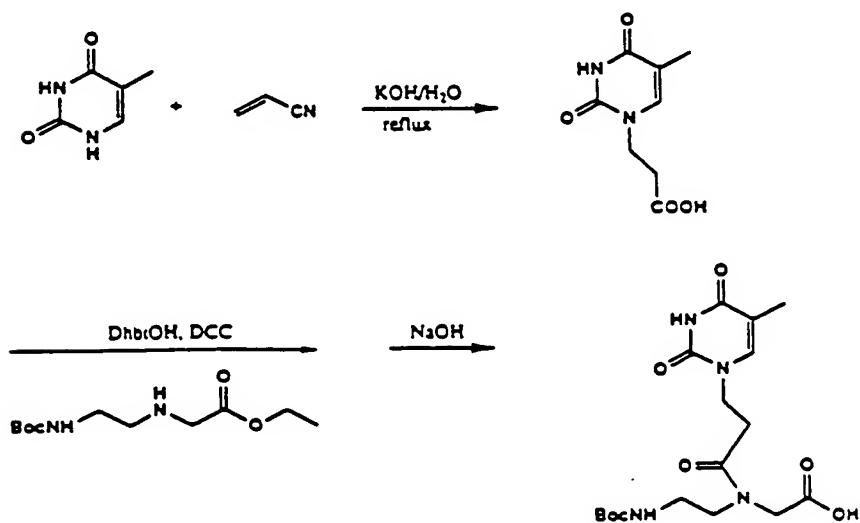


FIGURE 18 (b)

Synthesis of the aminoethyl- β -alanine analogue of the thymine monomer

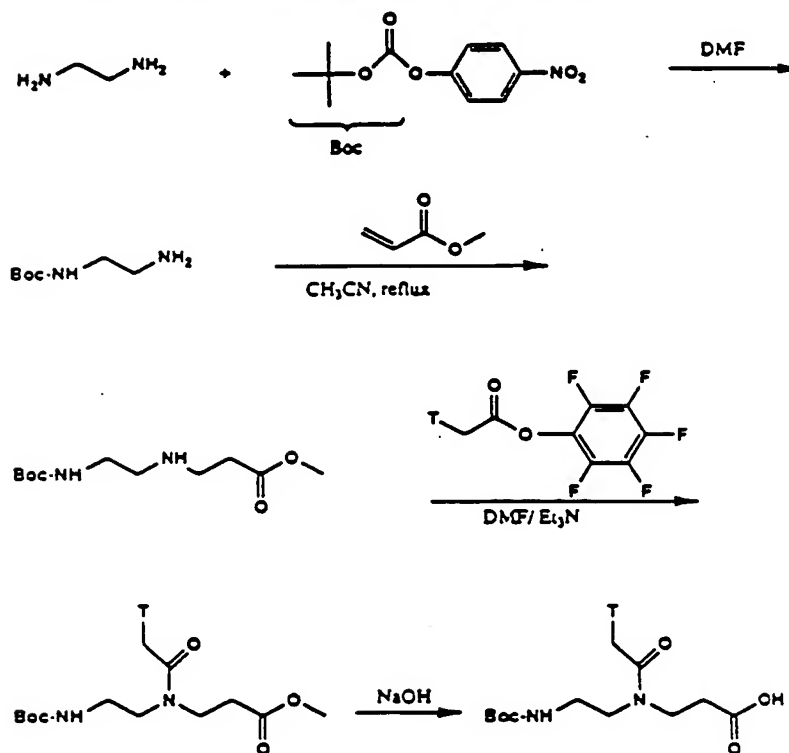


FIGURE 19

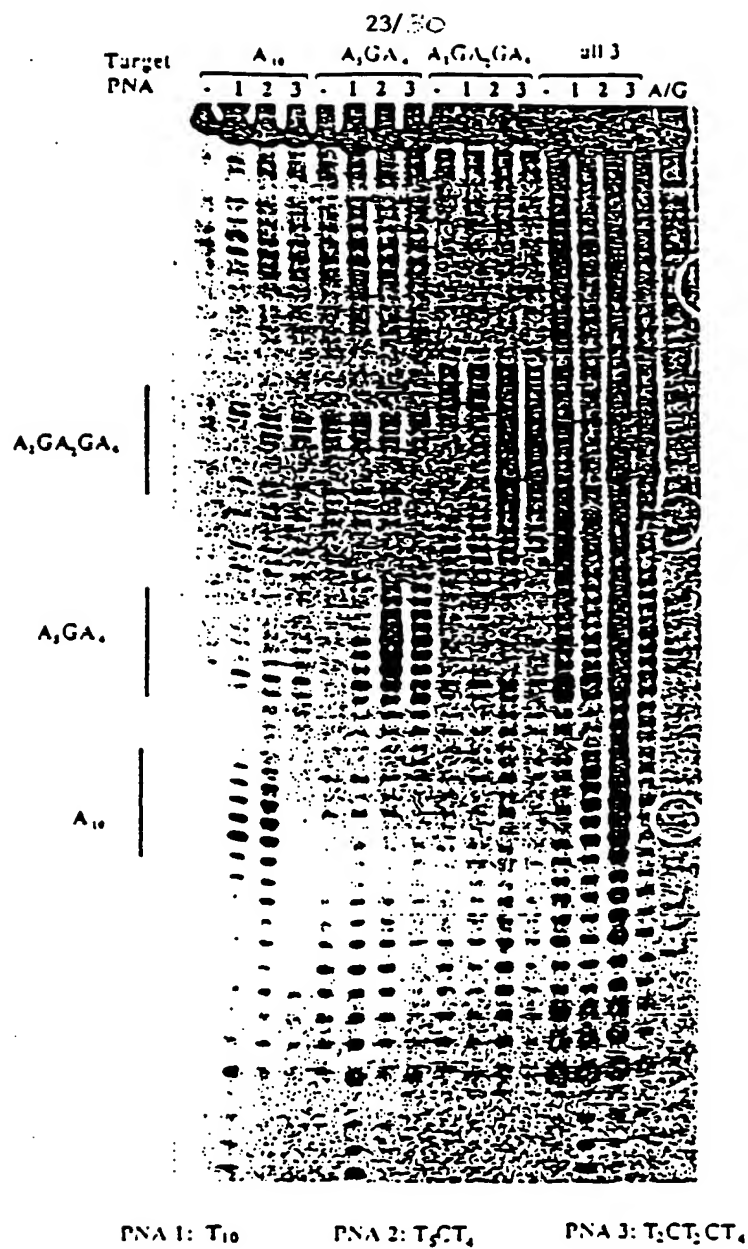


FIGURE 20

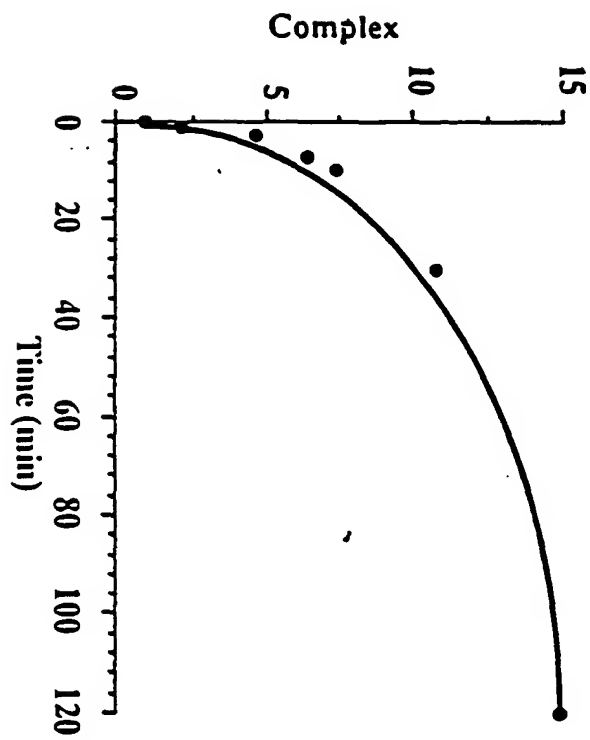


FIGURE 21

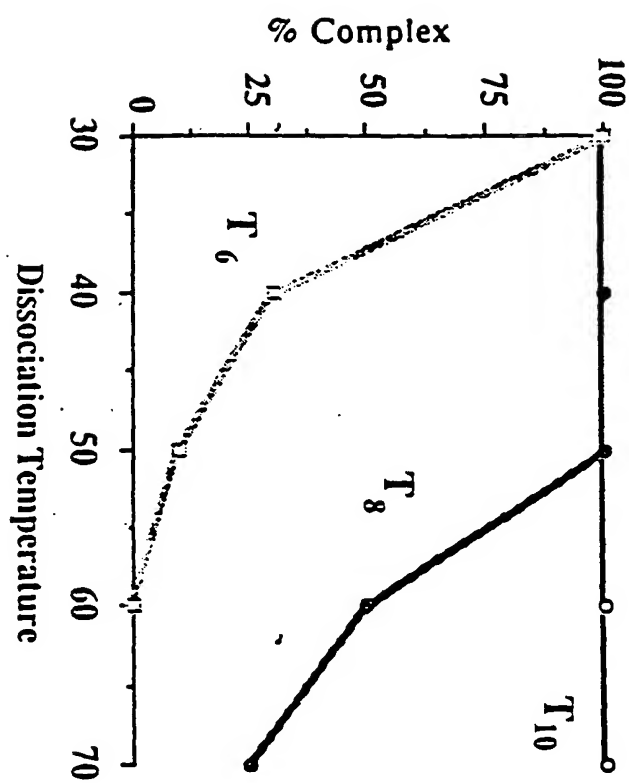
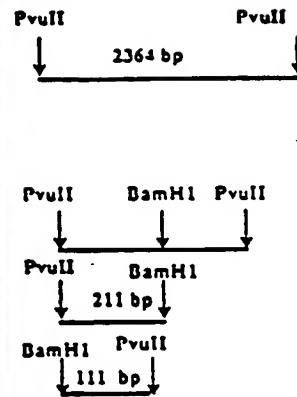
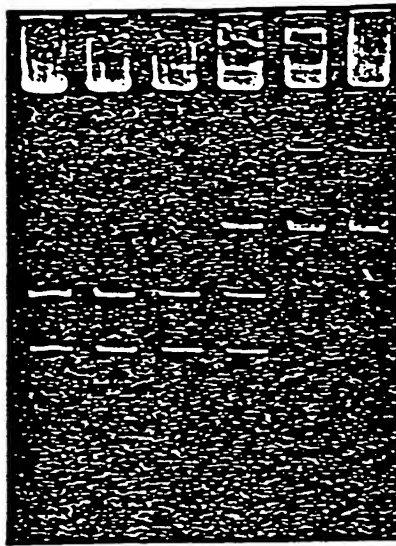


FIGURE 22

26/30

Inhibition of Restriction Enzyme Cleavage by PNA

PNA/DNA 0 0.006 0.02 0.06 0.2 0.6



PNA Target

5'-----GGATCCAAAAAAAAAAGGATCC-----
3'-----CCTAGGTTTTTTTTTTCCTAGG-----

BamHI

BamHI

FIGURE 23

27/30

Binding of ^{125}I -Tyr-PNA- T_{10}to dA $_{10}$

CT-DNA/oligo 0 0.3 1 3 10 30 100 300

Origin →

Hybrid →

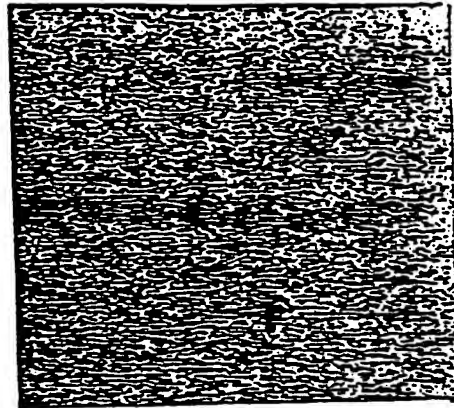


FIGURE 24

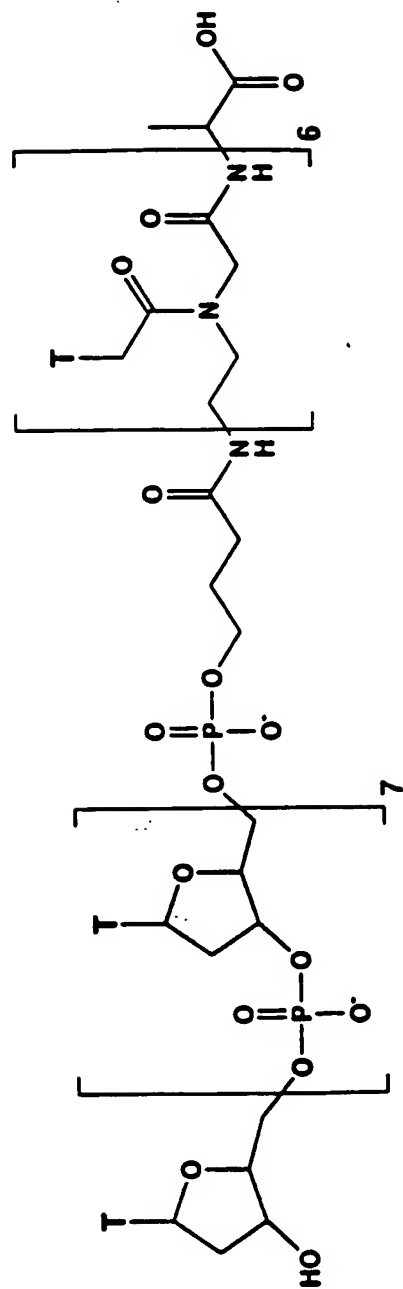


Figure 25

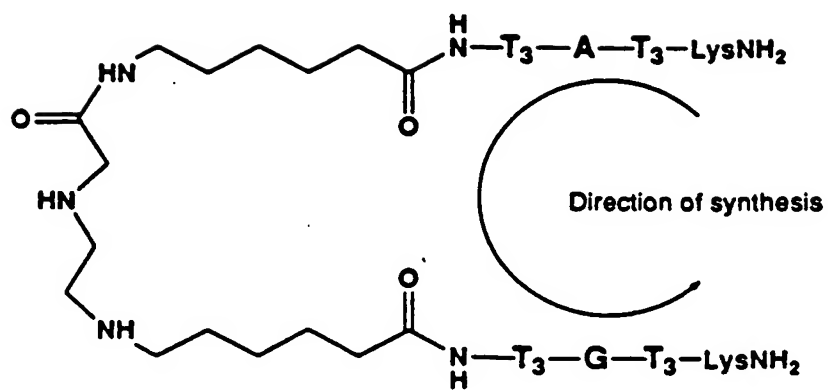
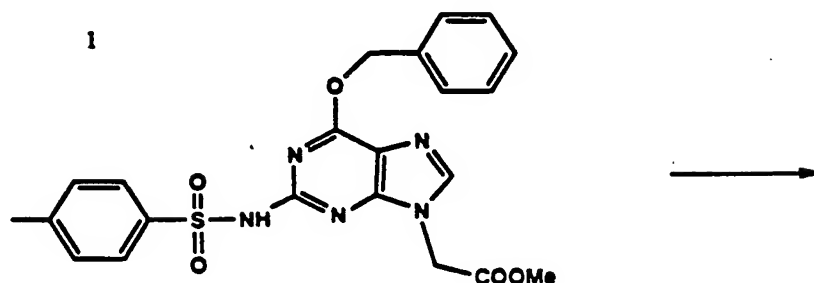


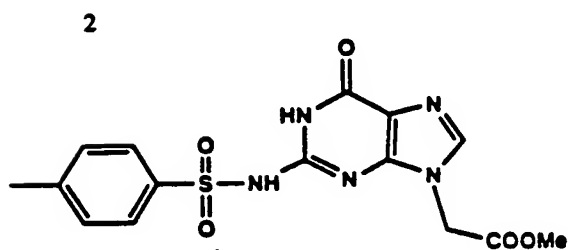
FIGURE 26

Test of the Tosyl-group as N-protecting group
in PNA-synthesis

Compound

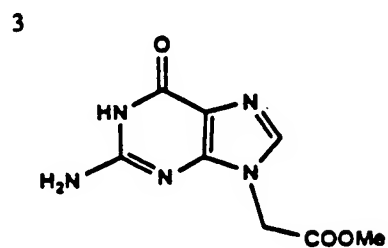


compound 1 in
50 % TFA: 50 % Methylene chloride, 5 h, rt.



Quantitative de-benzylation

compound 1 in
100 % HF, 0 °C, 1 h



Quantitative de-benzylation
and de-sulfonylation

FIGURE 27